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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
AKIHIKO ASAKAWA, ET AL.	: EXAMINER: HU, H. S.
SERIAL NO: 10/799,734	:
FILED: MARCH 15, 2004	: GROUP ART UNIT: 1713
FOR: FLUORORESIN POWDER COATING COMPOSITION	:

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an appeal of the Final Rejection dated May 17, 2006 of Claims 1-16. A Notice of Appeal is **submitted herewith**.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Asahi Glass Co., Ltd, having an address 12-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo 100-8405, Japan.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and the assignee are aware of no appeals, interferences, or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-16, all the claims in the application, stand rejected and are herein appealed.

IV. STATUS OF THE AMENDMENTS

No amendment under 37 CFR 1.116 has been filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1 is drawn to a fluororesin powder coating composition characterized by comprising a non-vinylidene fluororesin having a Tg higher than 40°C and a resin having a Tg of from 0 to 40°C, wherein the resin having a Tg of from 0 to 40°C has crosslinkable reactive groups.

See the specification at page 3, lines 18-21, combined with page 12, lines 12-16.

VI. GROUNDS OF REJECTION

Ground (A)

Claims 1-16 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. 5,898,043 (Uemae et al).

Ground (B)

Claims 1-16 stand rejected under 35 U.S.C. § 103(a) as anticipated by [sic, unpatentable over] U.S. 5,998,507 or its equivalent GB 2,325,235 A (Adachi et al) in view of Uemae et al.

Ground (C)

Claims 1-16 stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. 3,758,634 (Labana et al) in view of Uemae et al.

ARGUMENT

Ground (A)

Claims 1-16 stand rejected under 35 U.S.C. § 102(b) as anticipated by Uemae et al. That rejection is untenable and should not be sustained.

Uemae et al describes a coating composition which is a resin powder containing a film-forming resin and a crosslinking agent (abstract). The resin powder can be composed of a fluororesin which may contain a non-vinylidene monomer (column 6, lines 3-10). The resin can have Tg of 0-100°C (column 5, lines 23-28). The coating composition can also contain a charge control agent or a film smoothness improver that may include a polyester resin or an acrylic resin (column 9, line 61 to column 10, line 19). The Examiner concludes that these optional resins have a Tg temperature falling within the claimed range of 0-40°C, and therefore, the composition described in Uemae et al is the same as the claimed fluororesin powder coating composition.

In reply, Uemae et al discloses and suggests **no** Tg temperature for their charge control agent or their film smoothness improver. The Examiner's finding that "at least some of them" have a Tg temperature within the presently-recited range of 0-40°C is based on no evidence in the record. Moreover, with regard to the limitation herein of "Tg higher than 40°C", a range of 0-100°C does not anticipate this temperature absent some further direction in the prior art to employ a Tg of from 40-100°C. No such direction exists in Uemae et al. At any rate, the rejection is moot since Uemae et al does not disclose that their charge control agent or film smoothness improver contain crosslinkable reactive groups.

In the Final Rejection, the Examiner finds, in effect, that the above is not moot relying on the disclosure of *chlorinated* polyester, *acid group-excessive* polyester, *ethylene-methacrylic acid* copolymer, and *maleic acid*-phenol resin (column 9, line 61 through column 10, line 16; italics added).

In reply, whether or not these exemplified charge control agents and film smoothness improvers are intended to contain crosslinkable reactive groups, there is still no disclosure or suggestion, as discussed above, that these materials have a Tg of from 0 to 40°C.

Claim 2

Claim 2 is separately patentable, because Uemae et al does not disclose or suggest an amount for their charge control agent or their film smoothness improver.

Claim 6

Claim 6 is separately patentable, because Uemae et al does not disclose or suggest as their charge control agent or their film smoothness improver, a non-vinylidene fluororesin which is curable with a curing agent which is capable of curing their film forming resin.

Claim 13

Claim 13 is separately patentable, because Uemae et al does not disclose or suggest a non-vinylidene fluororesin as their charge control agent or their film smoothness improver.

Claim 14

Claim 14 is separately patentable, because Uemae et al does not disclose or suggest an amount for their charge control agent or their film smoothness improver.

Claim 15

Claim 15 is separately patentable, because Uemae et al does not disclose or suggest their charge control agent or their film smoothness improver as having a Tg of 10 to 40°C.

Claim 16

Claim 16 is separately patentable, because Uemae et al does not disclose or suggest their charge control agent or their film smoothness improver as having a Tg of 20 to 40°C.

For all the above reasons, it is respectfully requested that the rejection over Uemae et al be REVERSED.

Ground (B)

Claims 1-16 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Adachi et al in view of Uemae et al. (The reference to Adachi et al below is to the U.S. Patent). That rejection is untenable and should not be sustained.

Adachi et al describes a method for preparing a thermosetting powder coating material containing a base resin and a crosslinking agent (abstract). The base resin can include one or more types of resin including fluororesins. The Tg for the resin is in range of 50 to 100 °C (column 5, lines 7-27). Adachi et al also describes the addition of fine particles of a synthetic resin to improve adhesiveness and antichipping properties of the coating material. The fine particles of synthetic resin have a Tg of less than 40° C (column 6, lines 46-56).

However, Adachi et al neither discloses nor suggests that the synthetic resin making up their fine particles contain crosslinkable reactive groups. In addition, Adachi et al discloses that the glass transition temperature of this component be preferably less than 0°C (column 6, lines 52-55). Applicants have disclosed comparative data in the specification showing that when the Tg of their resin having a Tg of from 0 to 40°C is less than 0°C, blocking resistance is substantially compromised, while weather resistance and stain resistance are also inferior. See Table 3 at page 22 of the specification, and particularly Examples 1-4 compared to Comparative Example 3, which comparative example employs copolymer A-7, which is an acryl copolymer having a Tg of -10°C, as shown in Table 2 at page 18 of the specification. The meaning of the data in Table 3 is described in the specification at page 19, line 13 through the end of page 20.

In the Final Rejection, the Examiner does not explain how or why one of ordinary skill in the art would combine Adachi et al and Uemae et al. Nor has the Examiner responded to the above argument regarding the importance of the Tg of the resin having a Tg of from 0 to 40°C not being below 0°C.

Claim 6

Claim 6 is separately patentable, because Adachi et al does not disclose a polyester resin or a non-vinylidene fluororesin as the synthetic resin for their fine particles, and Uemae et al does not speak to this deficiency.

Claim 12

Claim 12 is separately patentable, because Adachi et al does not disclose a polyester resin as the synthetic resin for their fine particles, and Uemae et al does not speak to this deficiency.

Claim 13

Claim 13 is separately patentable, because Adachi et al does not disclose a non-vinylidene fluororesin as the synthetic resin for their fine particles, and Uemae et al does not speak to this deficiency.

For all the above reasons, it is respectfully requested that the rejection over Adachi et al in view of Uemae et al be REVERSED.

Ground (C)

Claims 1-16 stand rejected under 35 U.S.C. § 103(a) as obvious over Labana et al in view of Uemae et al. That rejection is untenable and should not be sustained.

Labana et al discloses a powdered coating composition comprising a particular copolymer of glycidyl methacrylate and an ethylenically unsaturated compound wherein the copolymer has a Tg of 40-90°C; a diphenol crosslinking agent; and a flow control agent having a Tg below the Tg of the copolymer (column 1, line 41ff). The Examiner finds that it would have been obvious to replace the copolymer of glycidyl methacrylate of Labana et al with any of the fluorinated copolymers of Uemae et al.

In reply, while the Examiner finds that Labana et al discloses that the flow control agent have a Tg below 40°C, such a Tg is required only when the copolymer has a Tg of **exactly** 40°C; otherwise, there is no requirement that the flow control agent have a Tg below 40°C. More fundamentally, Labana et al is limited specifically to a particular glycidyl methacrylate-based copolymer. While fluororesins and epoxy resins may be interchangeable in the inventions of Uemae et al, there is no disclosure or suggestion that they would be interchangeable in the particular powdered coating composition of Labana et al. Nevertheless, the rejection is moot, because Labana et al neither disclose nor suggest that their flow control agent contain crosslinkable reactive groups.

In the Final Rejection, the Examiner does not respond to the above argument.

Claim 2

Claim 2 is separately patentable, because Labana et al discloses a maximum amount for their flow control agent of about 4 weight % (column 5, lines 15-17), or below the presently-recited minimum of 5 weight %.

Claim 8

Claim 8 is separately patentable, because Labana et al, in not disclosing that their flow control agent contain crosslinkable reactive groups, necessarily does not disclose hydroxyl groups, carboxyl groups, amide groups, amino groups, mercapto groups, glycidyl groups, or isocyanate groups, as such crosslinkable reactive groups.

Claim 12

Claim 12 is separately patentable, because Labana et al does not disclose or suggest a polyester resin as an applicable flow control agent.

Claim 14

Claim 14 is separately patentable, because Labana et al discloses a maximum amount for their flow control agent of about 4 weight % (column 5, lines 15-17), or below the presently-recited minimum of 20 weight %.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

VIII. CONCLUSION

For the above reasons, it is respectfully requested that all the rejections still pending in the Final Office Action be REVERSED.

Respectfully submitted,

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CLAIMS APPENDIX

Claim 1: A fluororesin powder coating composition characterized by comprising a non-vinylidene fluororesin having a Tg higher than 40°C and a resin having a Tg of from 0 to 40°C, wherein the resin having a Tg of from 0 to 40°C has crosslinkable reactive groups.

Claim 2: The fluororesin powder coating composition according to Claim 1, wherein the blend ratio (mass ratio) of the non-vinylidene fluororesin having a Tg higher than 40°C/the resin having a Tg of from 0 to 40°C, is from 95/5 to 30/70.

Claim 3: The fluororesin powder coating composition according to Claim 1, wherein the non-vinylidene fluororesin has crosslinkable reactive groups, and the fluororesin powder coating composition contains a curing agent capable of reacting with the crosslinkable reactive groups to form crosslinkages.

Claim 4: The fluororesin powder coating composition according to Claim 3, wherein the crosslinkable reactive groups are hydroxyl groups, carboxyl groups, amide groups, amino groups, mercapto groups, glycidyl groups, halogen atoms, isocyanate groups or hydrolysable silyl groups.

Claim 5: The fluororesin powder coating composition according to Claim 1, wherein the resin having a Tg of from 0 to 40°C is an acrylic resin, a polyester resin or a non-vinylidene fluororesin.

Claim 6: The fluororesin powder coating composition according to Claim 5, wherein the resin having a Tg of from 0 to 40°C is a non-vinylidene fluororesin which is curable with a curing agent which is capable of curing the non-vinylidene fluororesin having a Tg higher than 40°C.

Claim 7: The fluororesin powder coating composition according to Claim 1, wherein the non-vinylidene fluororesin comprises fluoroolefin units and monomer units copolymerizable with the fluoroolefin units.

Claim 8: The fluororesin powder coating composition according to Claim 1, wherein the crosslinkable reactive groups of the resin having a Tg of from 0 to 40°C are hydroxyl groups, carboxyl groups, amide groups, amino groups, mercapto groups, glycidyl groups, or isocyanate groups.

Claim 9: The fluororesin powder coating composition according to Claim 1, wherein the non-vinylidene fluororesin has a Tg of from 40°C to 70°C.

Claim 10: The fluororesin powder coating composition according to Claim 1, wherein the non-vinylidene fluororesin has a Tg of from 50°C to 65°C.

Claim 11: The fluororesin powder coating composition according to Claim 5, wherein the resin having a Tg of from 0 to 40°C is an acrylic resin.

Claim 12: The fluororesin powder coating composition according to Claim 5, wherein the resin having a Tg of from 0 to 40°C is a polyester resin.

Claim 13: The fluororesin powder coating composition according to Claim 5, wherein the resin having a Tg of from 0 to 40°C is a non-vinylidene fluororesin.

Claim 14: The fluororesin powder coating composition according to Claim 2, wherein the blend ratio (mass ratio) of the non-vinylidene fluororesin having a Tg higher than 40°C/the resin having a Tg of from 0 to 40°C, is from 80/20 to 50/50.

Claim 15: The fluororesin powder coating composition according to Claim 1, wherein the resin having a Tg of from 0 to 40°C has a Tg of 10 to 40°C.

Claim 16: The fluororesin powder coating composition according to Claim 1, wherein the resin having a Tg of from 0 to 40°C has a Tg of 20 to 40°C.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.